

FIG.1

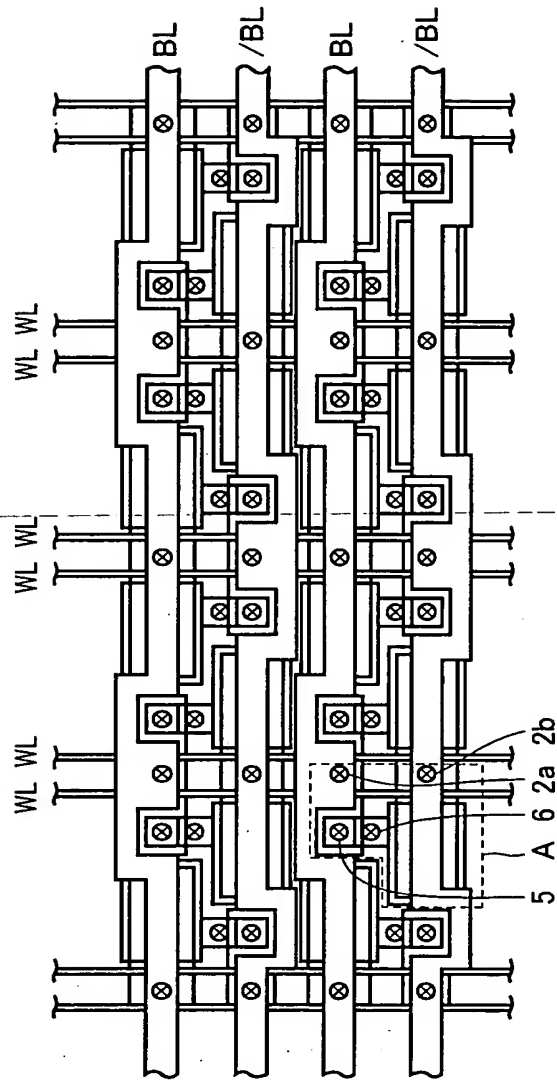


FIG.2

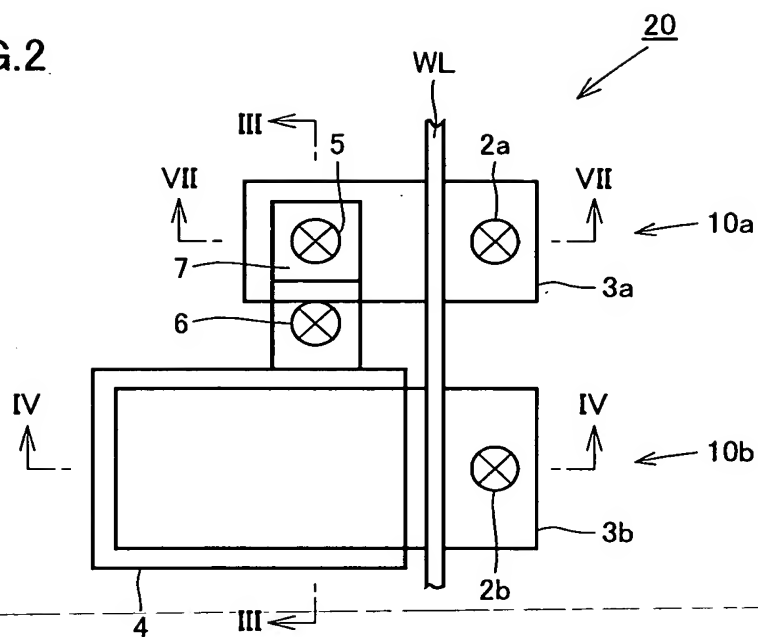


FIG.3

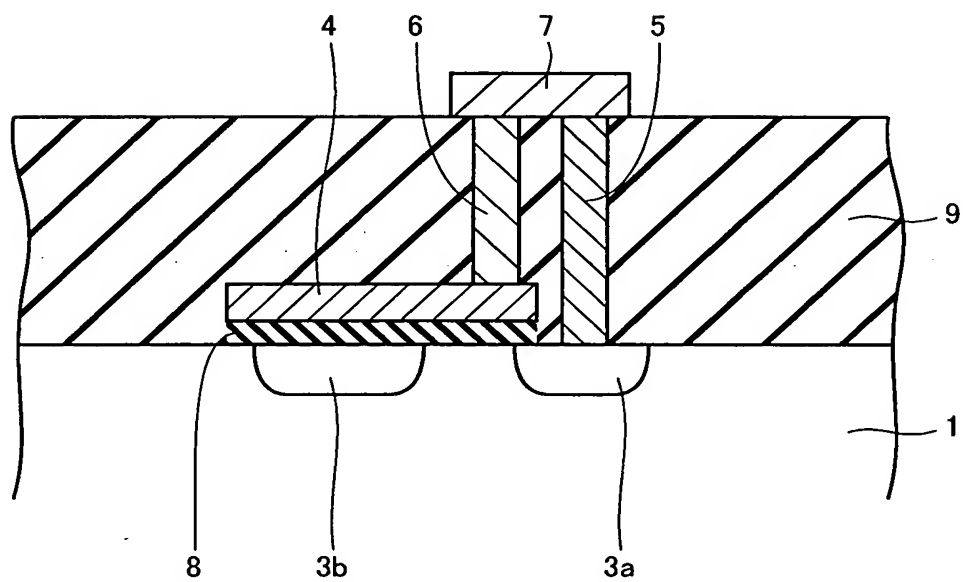


FIG.4

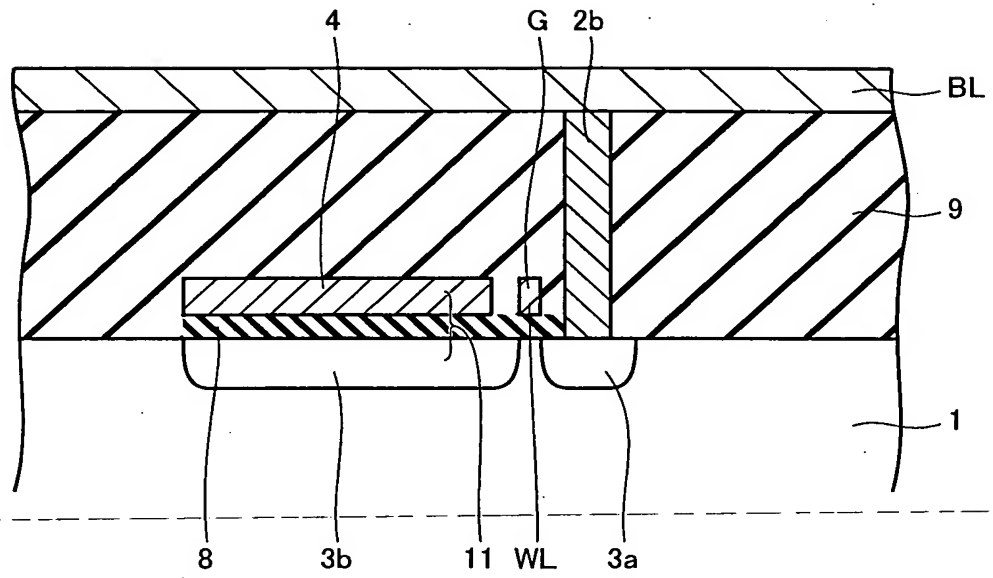


FIG.5

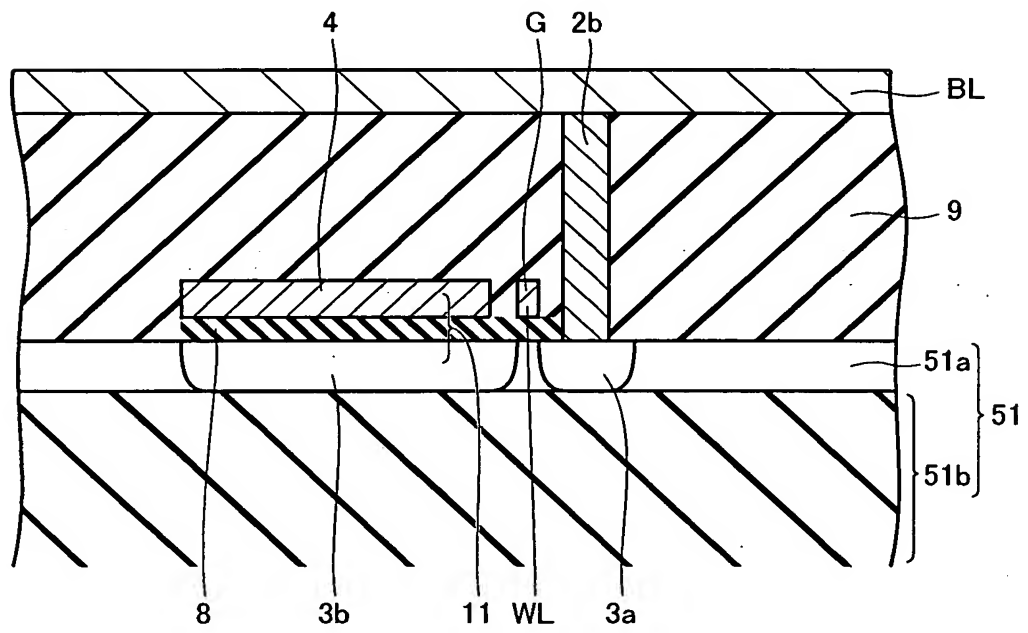


FIG.6

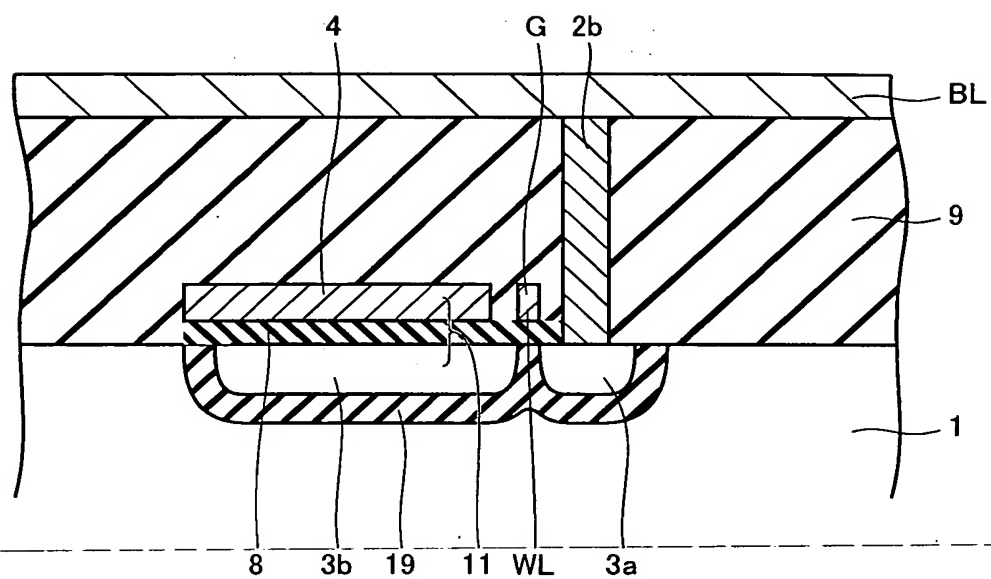
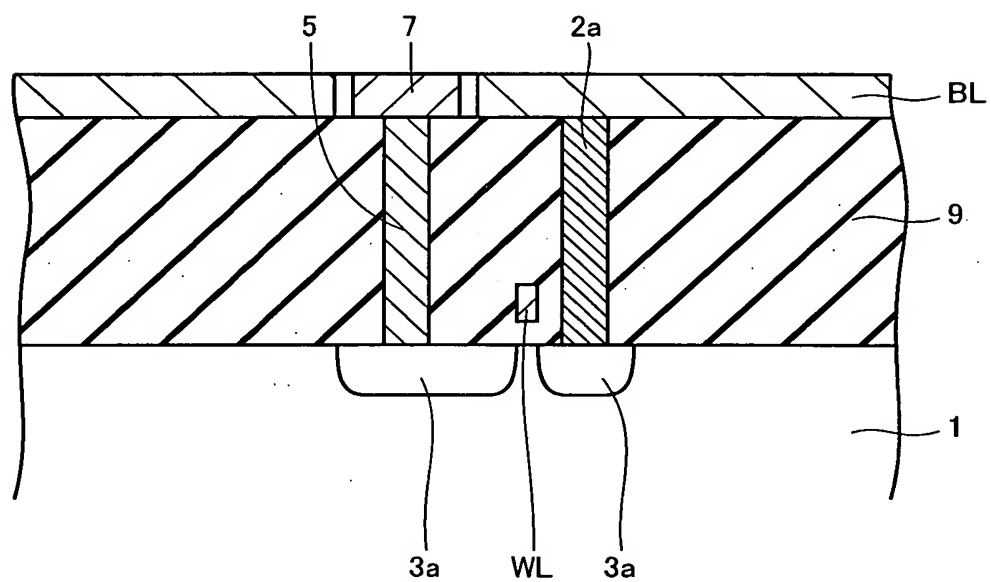


FIG.7



The diagram shows a cross-section of a semiconductor device. A vertical line on the left is labeled 'WL' (Word Line). Two horizontal lines are labeled 'BL' (Bit Line) and '/BL' (Inverted Bit Line). The device consists of two access transistors, 10a and 10b, and a storage capacitor, 20. Access transistor 10a is connected to the WL line and the BL line. Access transistor 10b is connected to the WL line and the /BL line. The storage capacitor 20 is connected to the BL line and the /BL line. The storage capacitor is formed by a dielectric layer 4 and a conductive layer 5. The access transistors are formed by a gate stack 3a and 3b, and a channel layer 7. The storage capacitor is formed by a dielectric layer 4 and a conductive layer 5. The storage capacitor is connected to the BL line and the /BL line. The access transistors are connected to the WL line and the BL line. The storage capacitor is formed by a dielectric layer 4 and a conductive layer 5. The access transistors are formed by a gate stack 3a and 3b, and a channel layer 7.

FIG.9

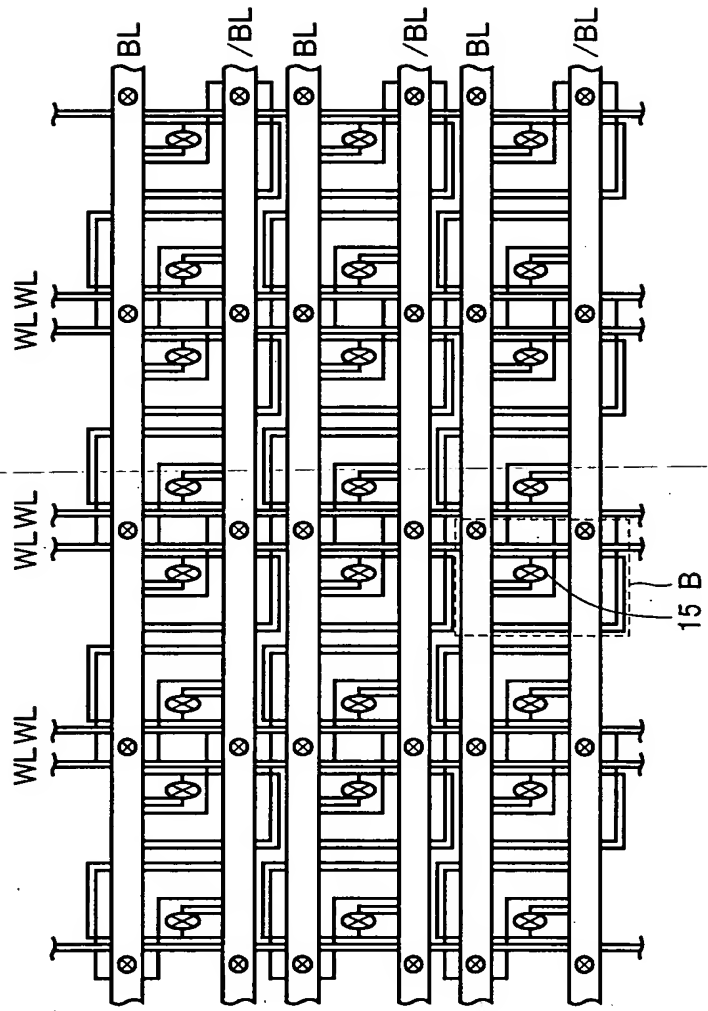


FIG.10

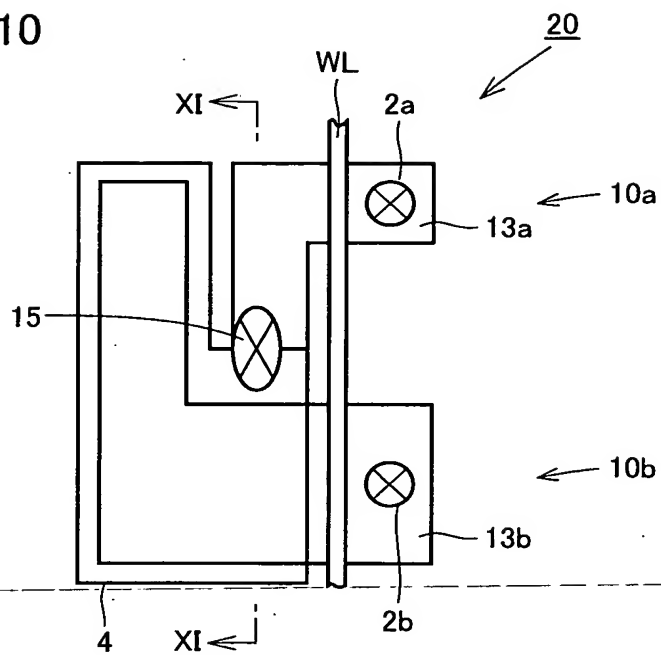


FIG.11

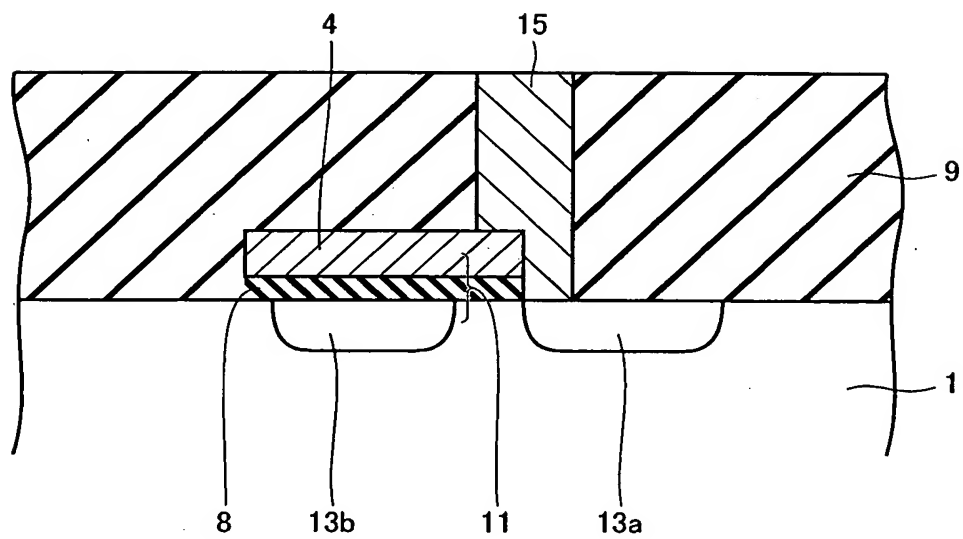


FIG.12

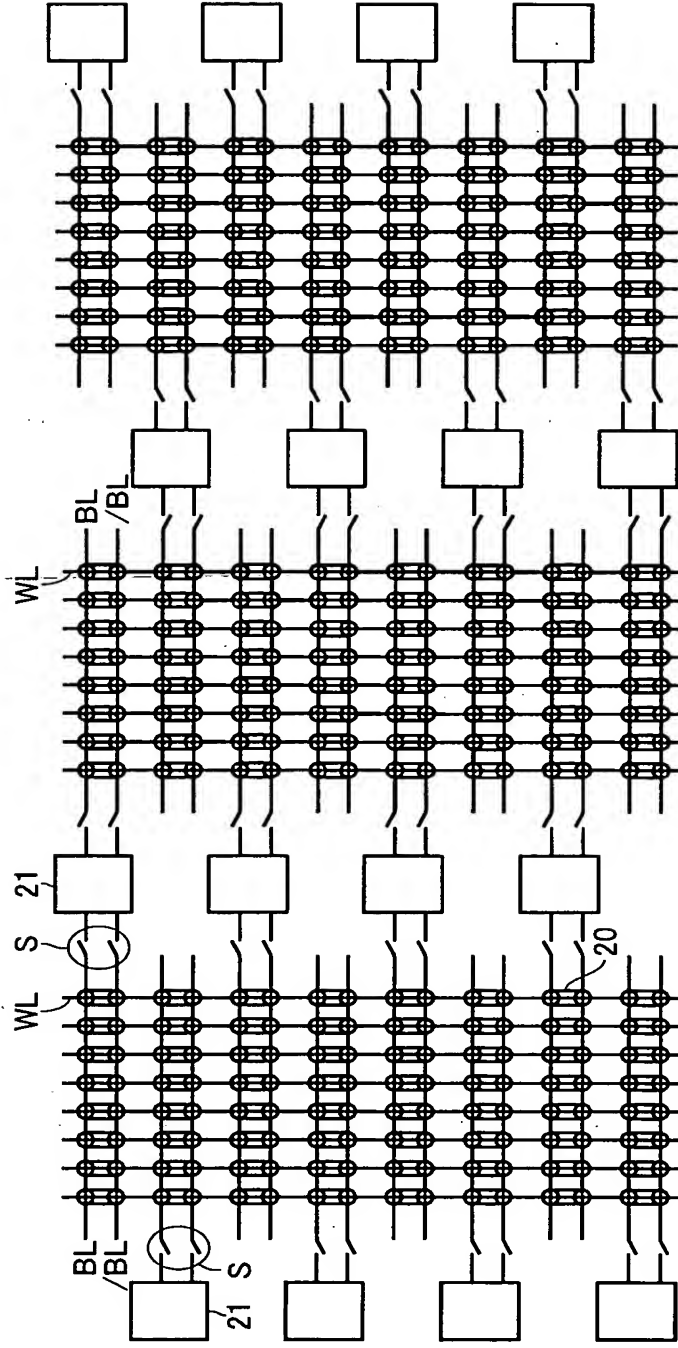
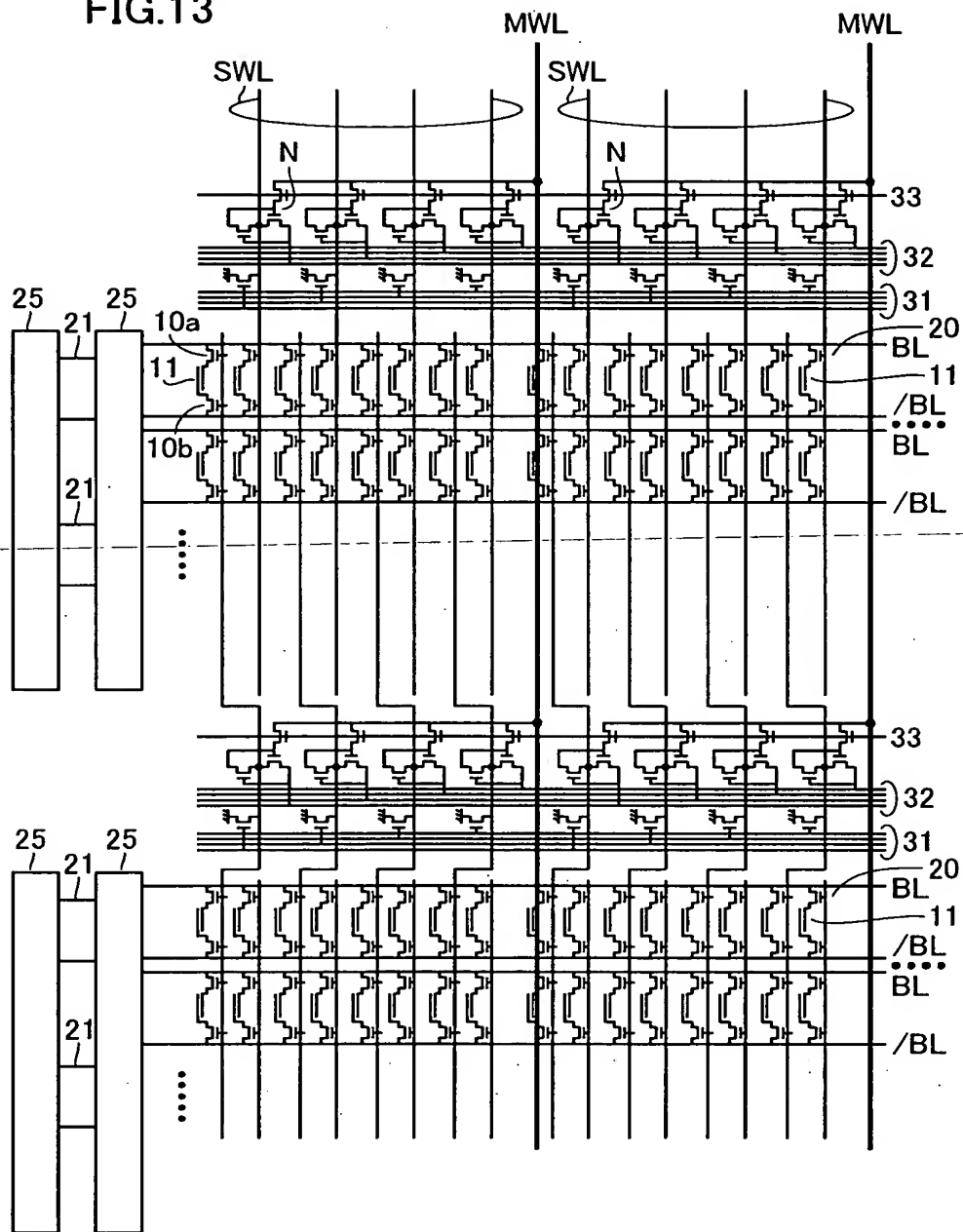


FIG.13



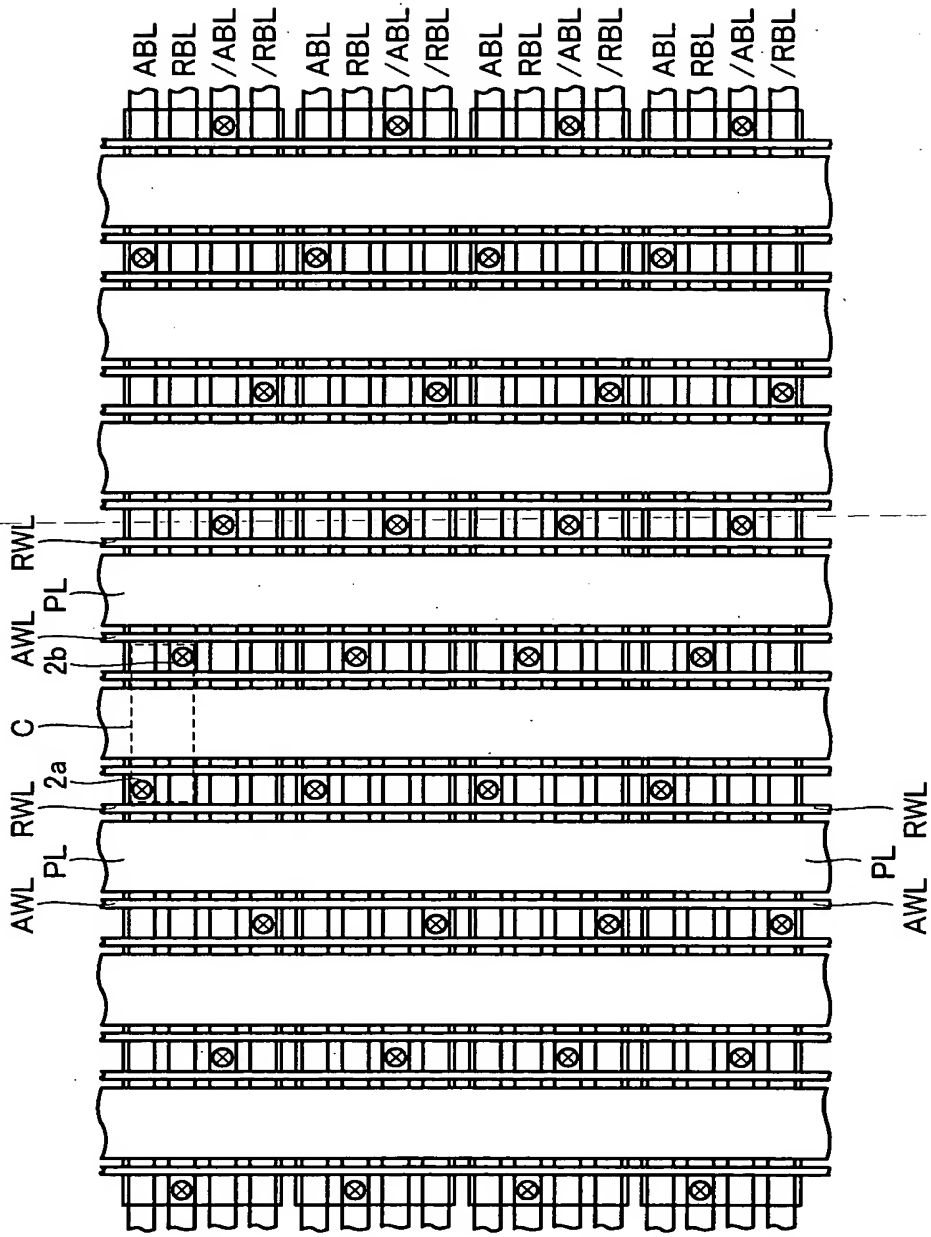


FIG.15

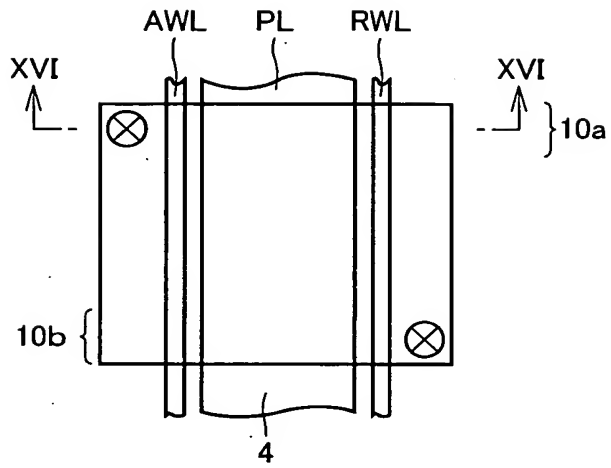


FIG.16

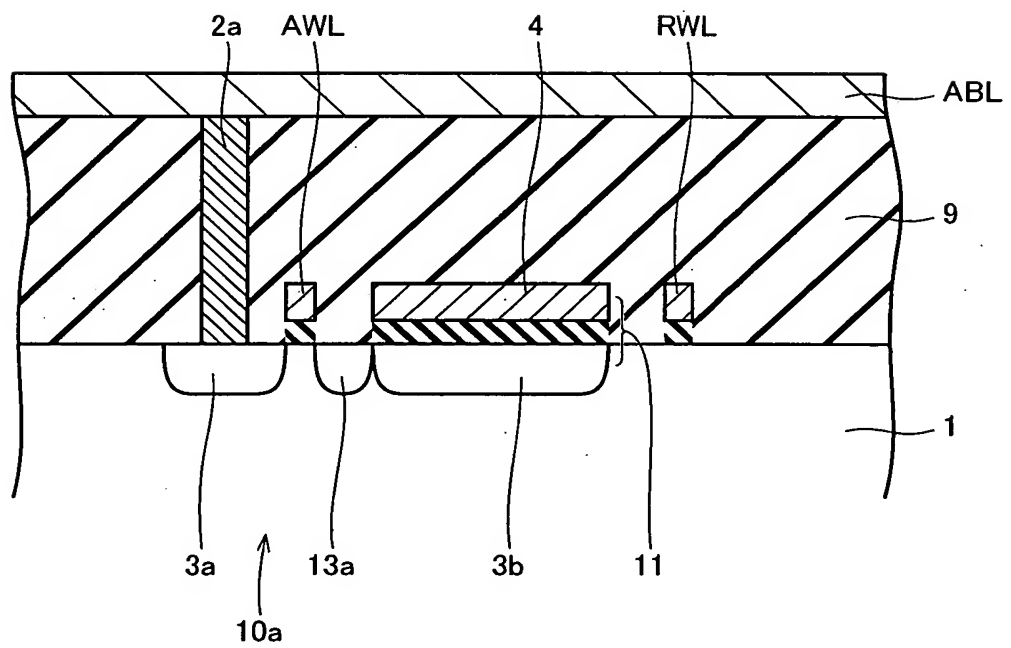


FIG.17

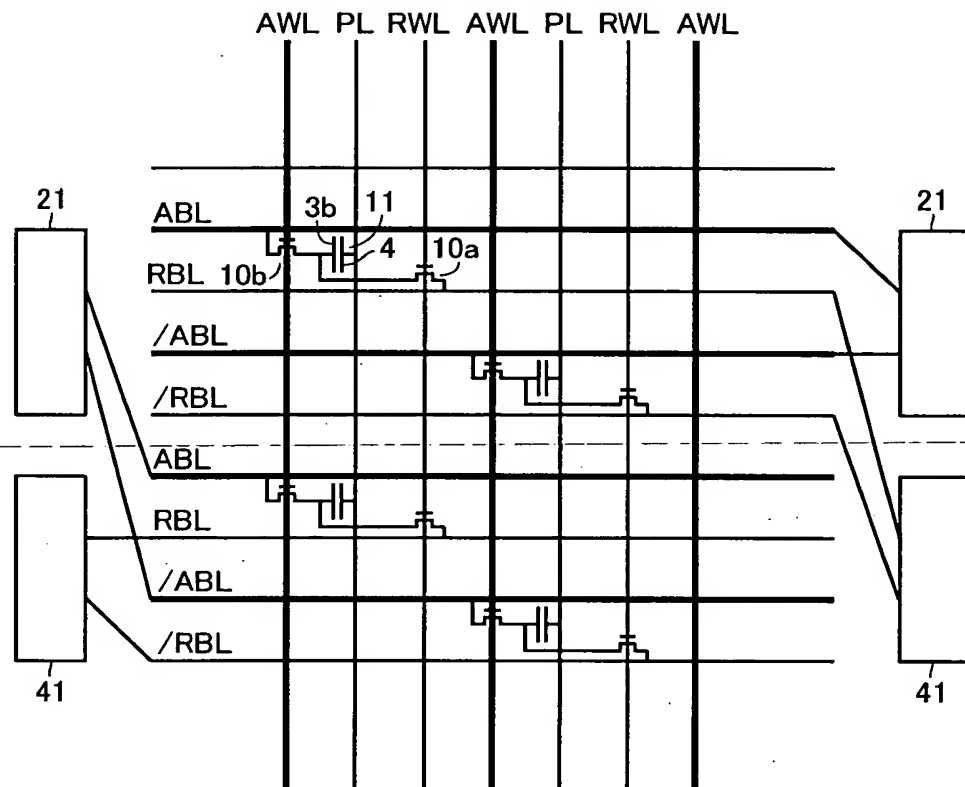


FIG.18

© THE REFRESH REQUEST IS ISSUED BEFORE THE ACT OPERATION.

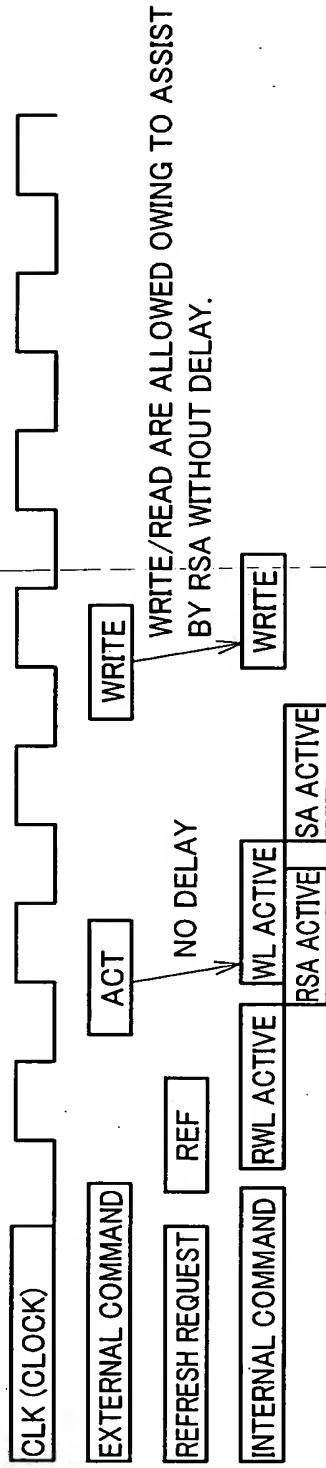


FIG.19

© REFRESH REQUEST IS ISSUED SIMULTANEOUSLY WITH OR AFTER ACT OPERATION.

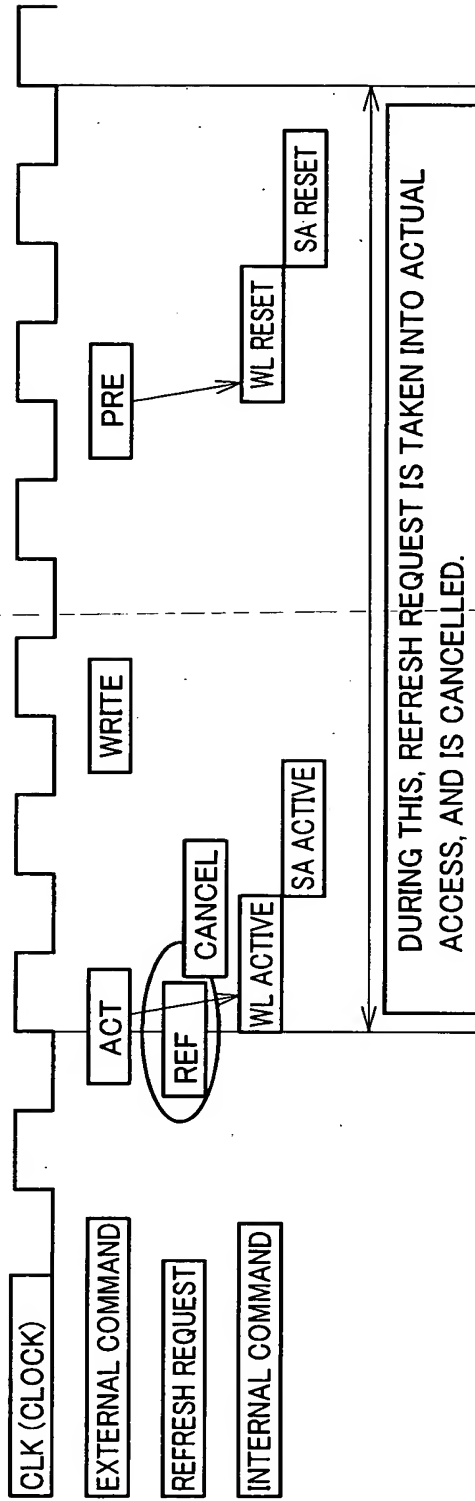


FIG.20

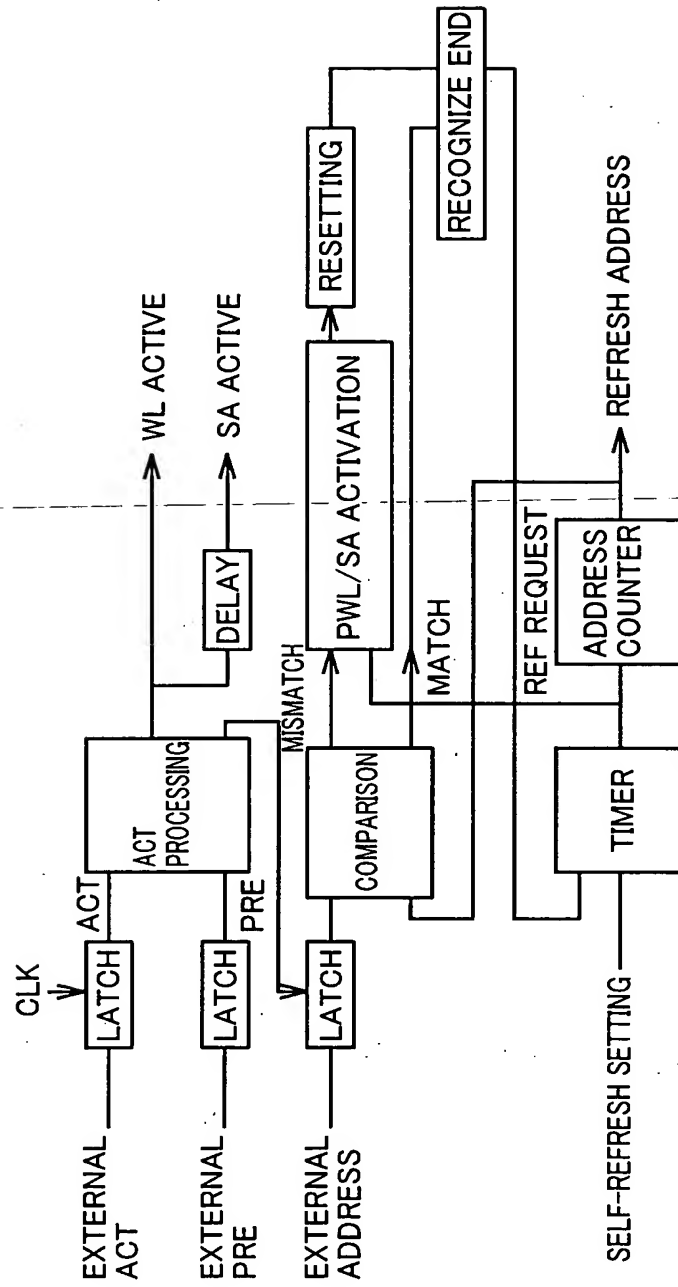


FIG.21

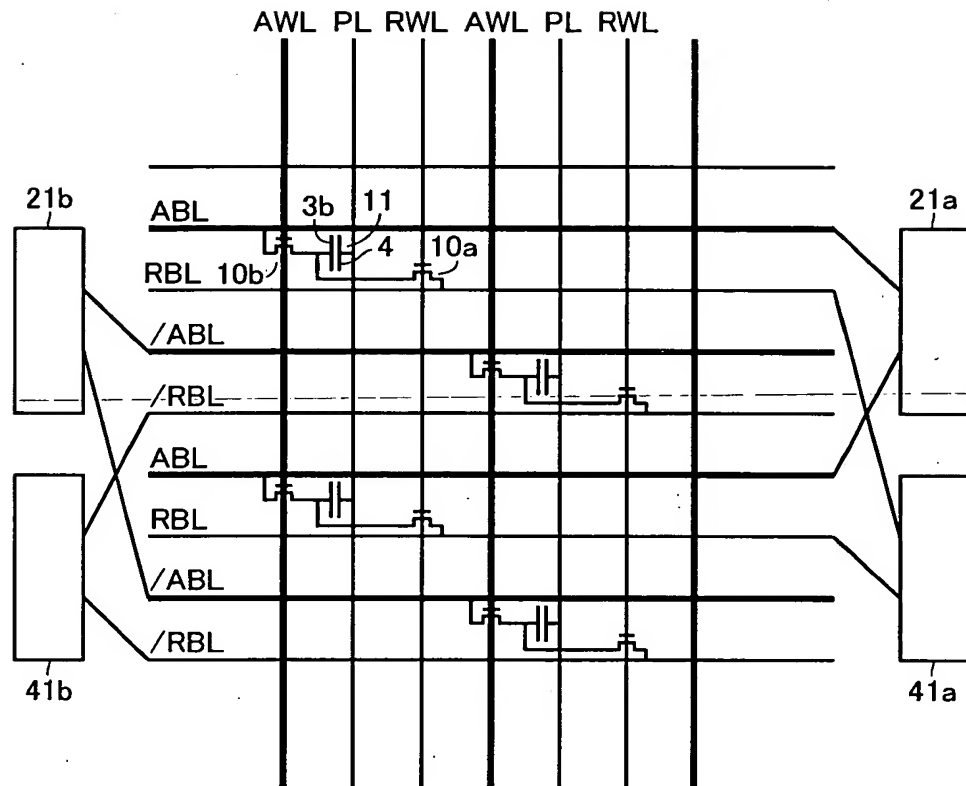


FIG.22

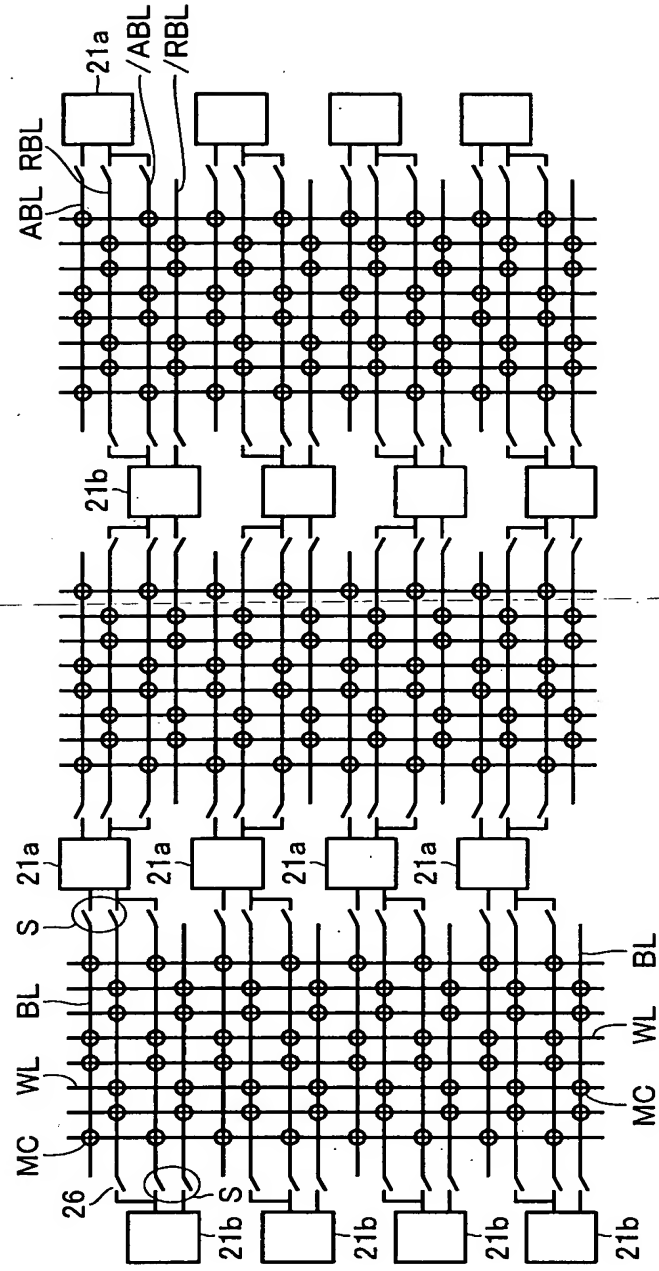


FIG.23

ONE-SIDE OPERATION MODE
ON STANDBY

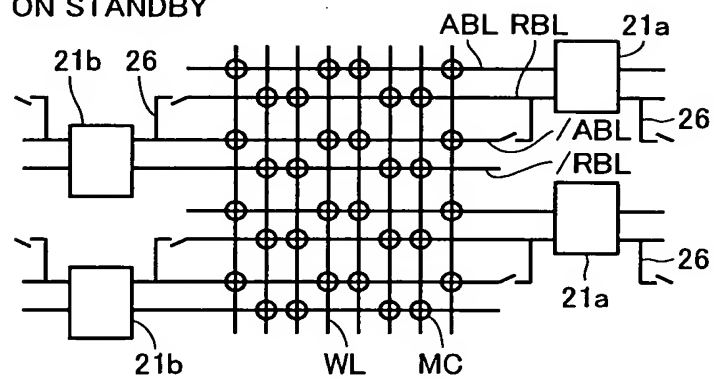


FIG.24

ONE-SIDE OPERATION MODE
WORD LINE ACTIVE

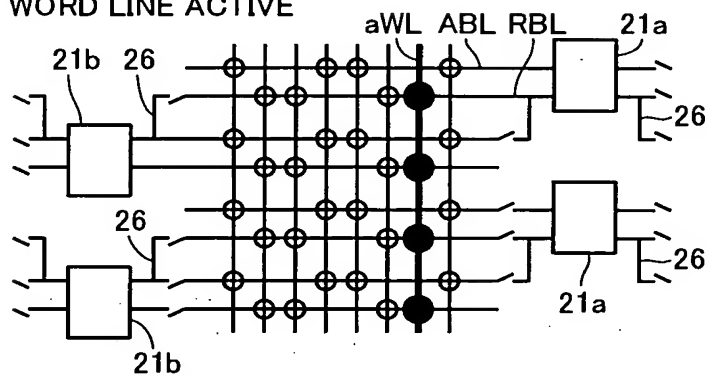


FIG.25

COMPLEMENTARY CAPACITY OPERATION MODE ON STANDBY

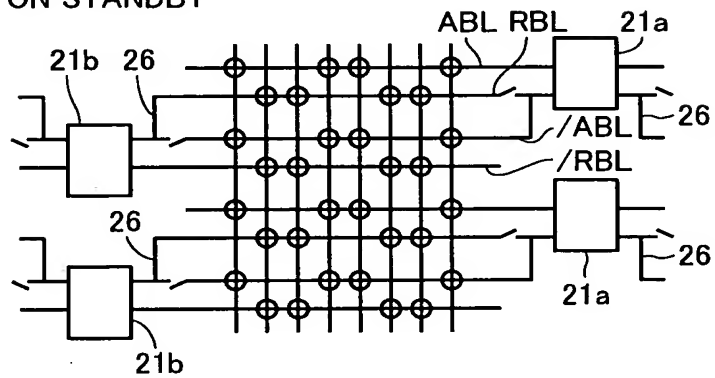


FIG.26.

COMPLEMENTARY CAPACITY OPERATION MODE
WORD LINE ACTIVE

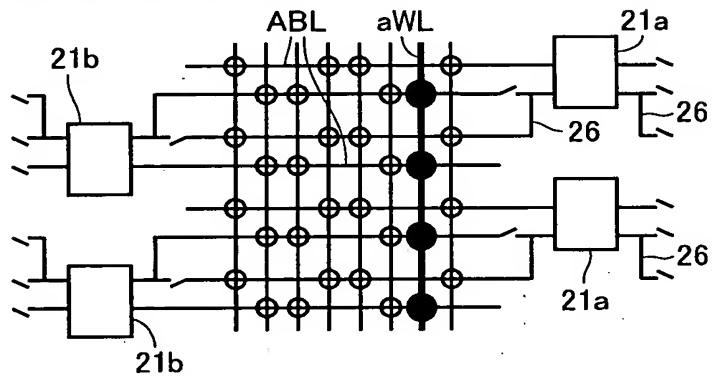


FIG.27

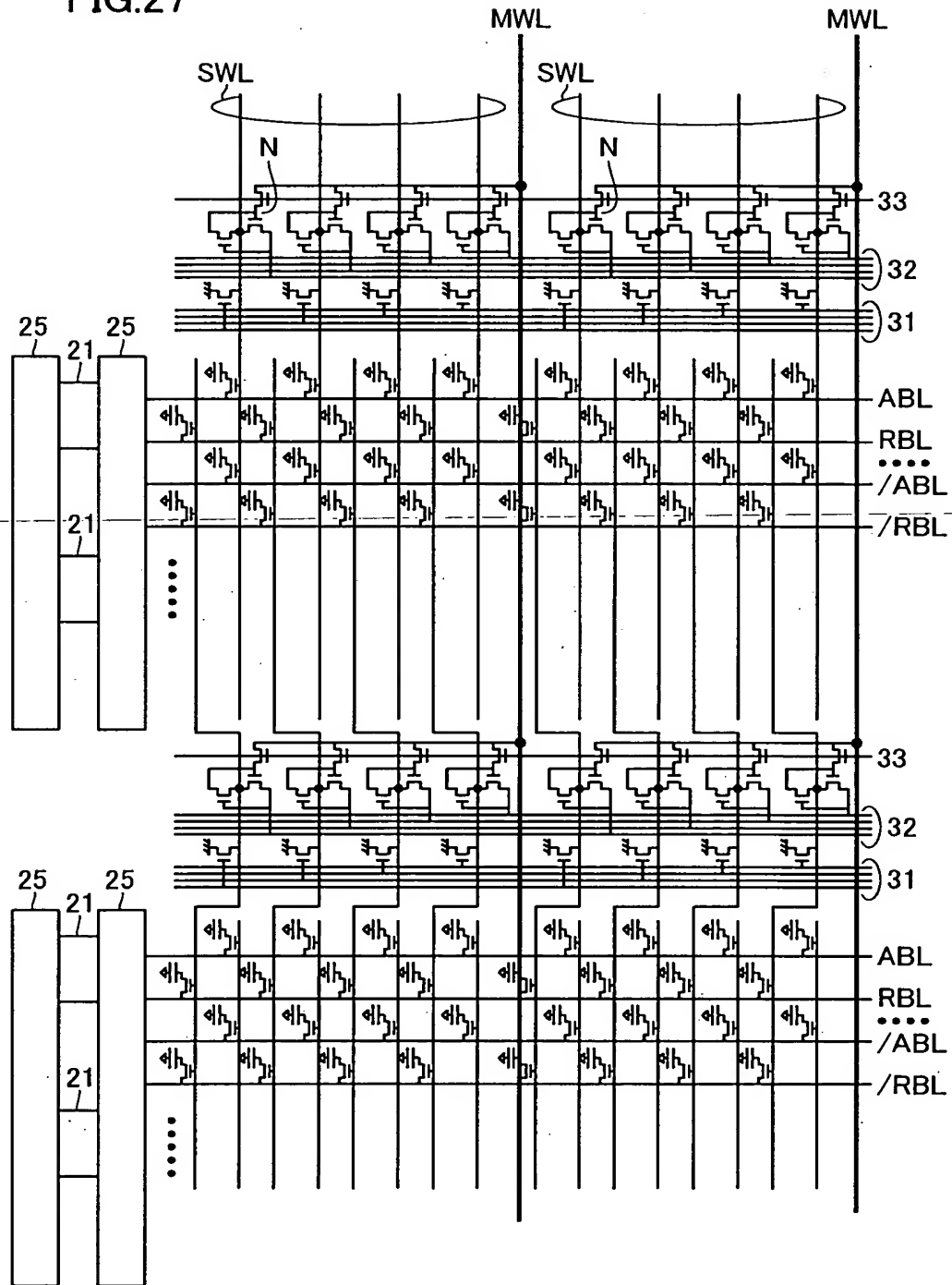


FIG.28

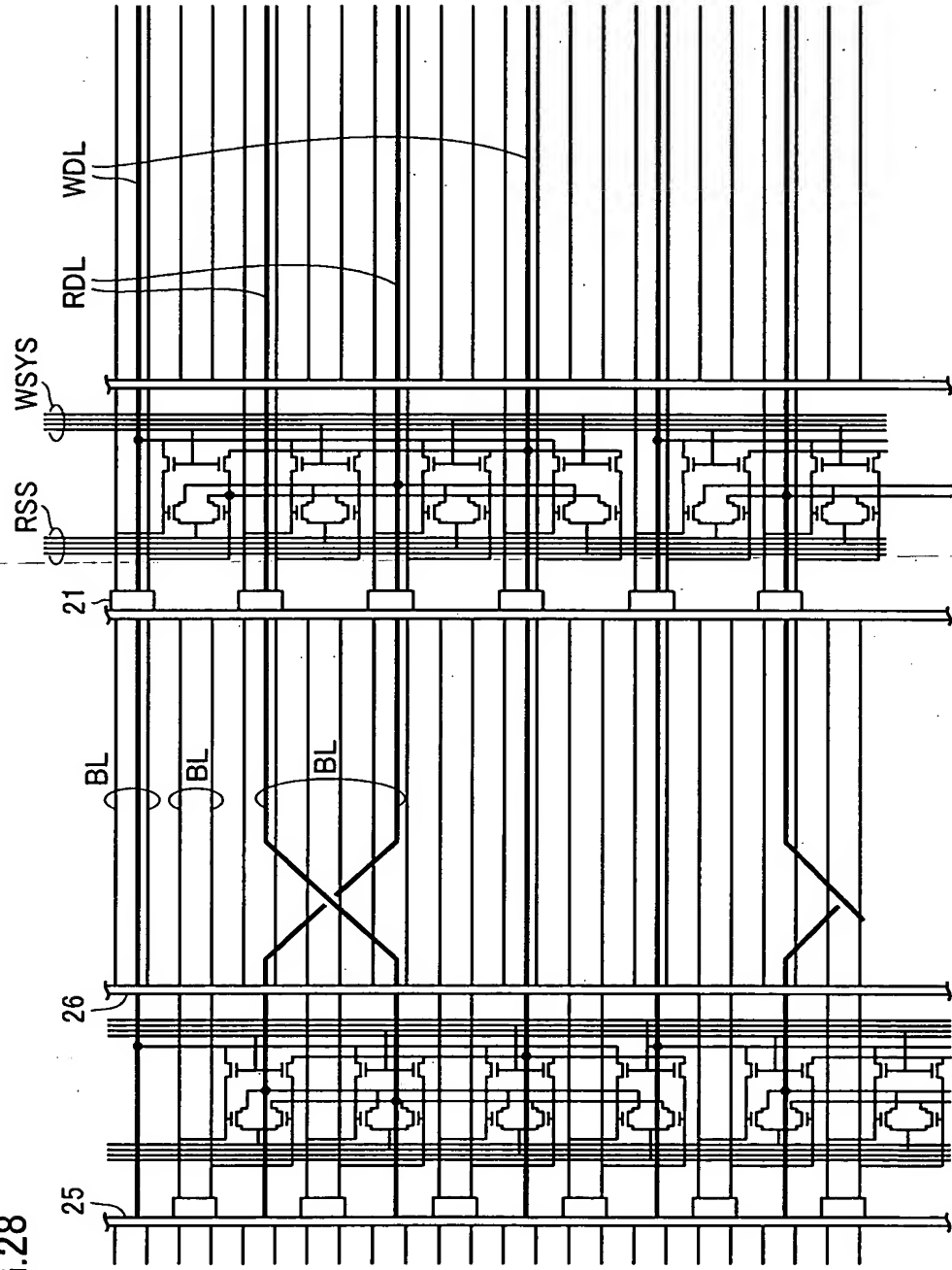


FIG. 29

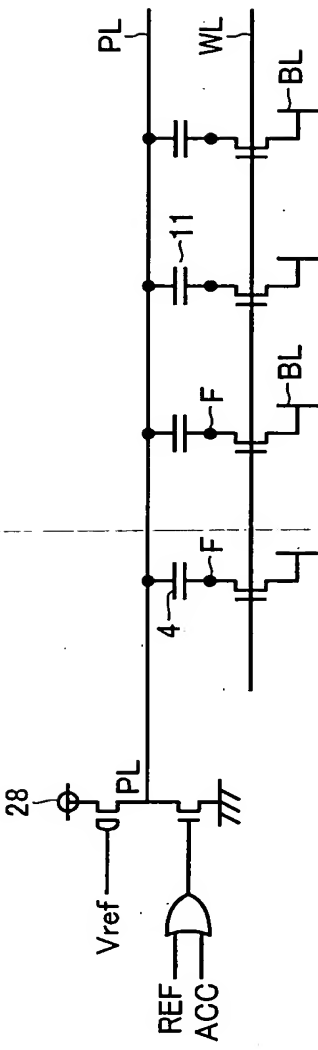


FIG.30

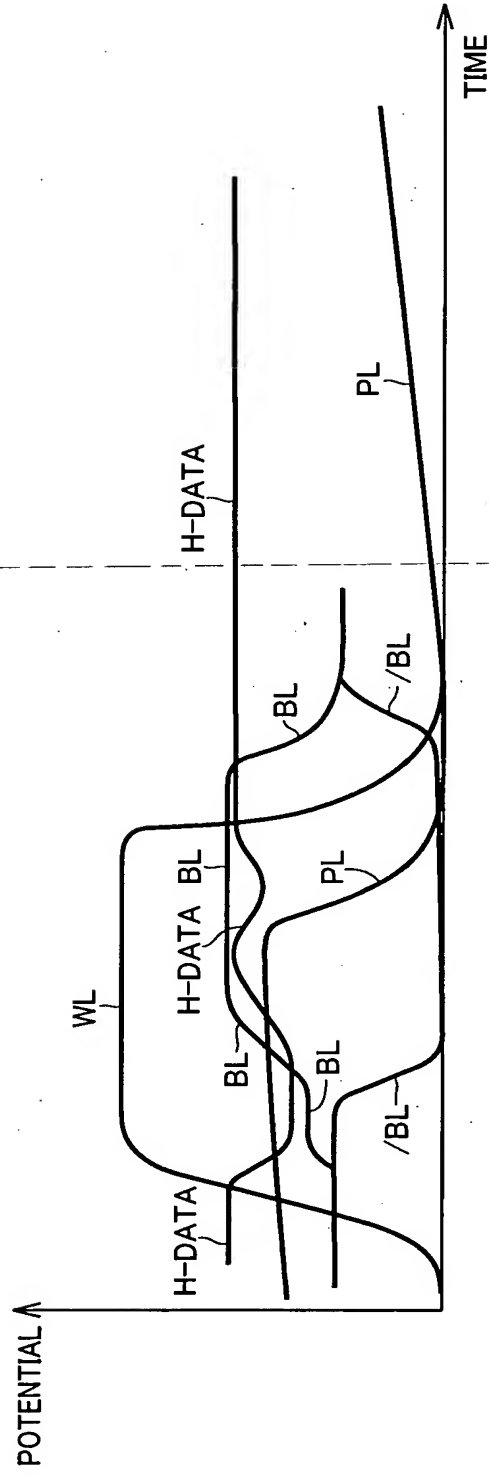


FIG.31

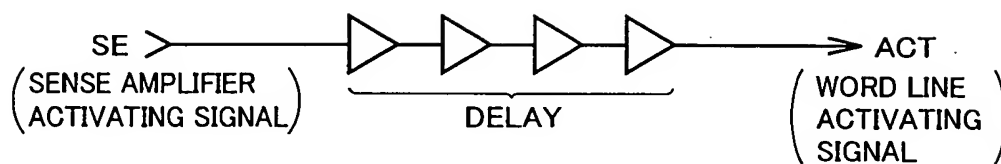


FIG.32

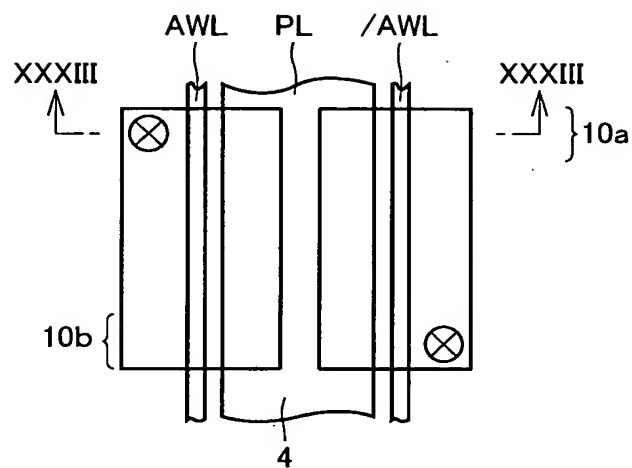


FIG.33

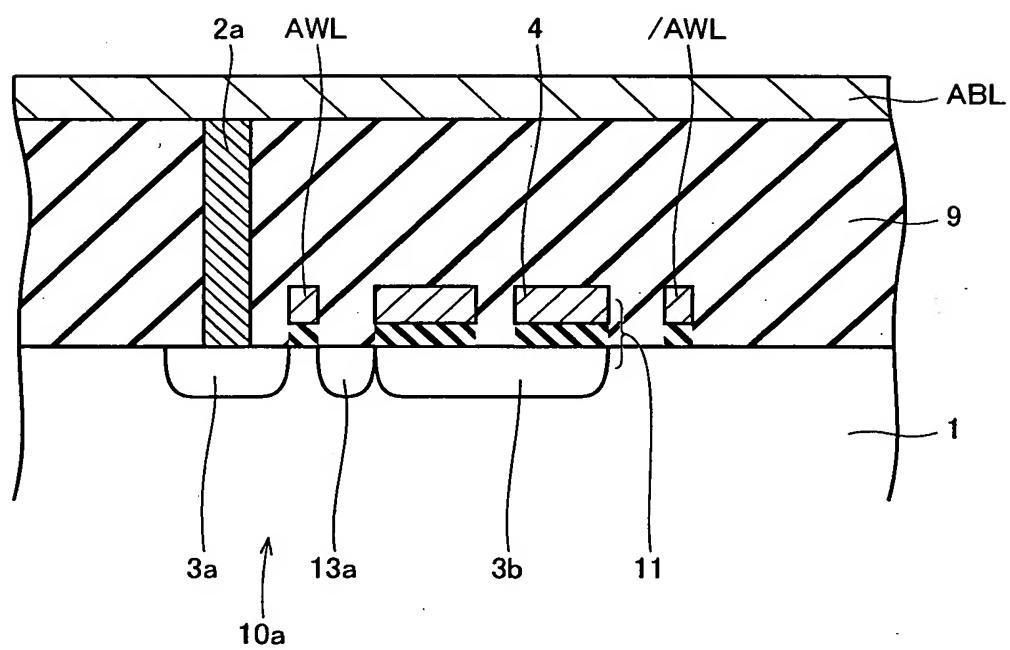


FIG.34

